500.39945PX1

## IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

Applicants:

Y. KOKURYO, et al.

erial No.:

09/822,272

April 2, 2001

AUTOMATIC EQUALIZATION CIRCUIT AND RECEIVER CIRCUIT

**USING THE SAME** 

Group:

2634

SEP 2 8 2004

Examiner:

L. Williams

Technology Center 2600

September 23, 2004

# SUBMISSION OF SUBSTITUTE SPECIFICATION

Commissioner for Patents

P.O. Box 1450

Alexandria, VA 22313-1450

Sir:

Attached please find a substitute specification for the above-referenced application. Please note that the attached substitute specification does not contain any new matter. Also attached is a marked-up copy of the specification as originally filed.

It is respectfully requested that any shortage in the fees be charged to the Deposit Account of Antonelli, Terry, Stout & Kraus, LLP, Account No. 01-2135 (Case No. 500.39945PX1).

Respectfully submitted,

Carl I. Brundidge

Registration Number: 29,621

ANTONELLI, TERRY, STOUT & KRAUS, LLP

CIB/jdc (703) 312-6600

#### SUBSTITUTE SPECIFICATION



AUTOMATIC EQUALIZATION CIRCUIT AND RECEIVER CIRCUIT USING THE SAME

#### CROSS-REFERENCE TO RELATED APPLICATION

This is a continuation-in-part of United States Application Serial No. 09/819,709, filed on March 29, 2001 in the names of Kokuryo Yoshiro, Nobuo Tsukamoto and Hiroyuki Hamazumi, entitled "AUTOMATIC EQUALIZATION CIRCUIT AND RECEIVER CIRCUIT USING THE SAME", assigned to the same assignee of the present application and claiming the priority right based on Japanese patent application No. 2000-94670 filed on March 30, 2000, the disclosures of which is hereby incorporated by reference herein.

### BACKGROUND OF THE INVENTION

The present invention relates to an equalization circuit to be used in a demodulation circuit for demodulating a multilevel digital modulation signal, and more particularly to an automatic equalization circuit of the type that equalization characteristics, i.e., frequency characteristics, are automatically set by using a training signal, and to a receiver circuit (demodulation circuit) using such an automatic equalization circuit.

It is desired in every and each transmission system including a multilevel digital transmission system that waveform distortions, echoes and the like

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